response and pharmacokinetic studies.

ALLAN WILSON, PH D
Associate professor and director of research
Department of psychiatry
University of Manitoba
Winnipeg, Man.

To the editor: Contrary to the implication in his letter, we have been well aware of Dr. Wilson's efforts since he came to us for advice prior to initiating his work on disulfiram implants.1,2,5

With regard to the issue of biochemical assay, measurement of serum disulfiram concentrations has been reported by others, but disulfiram is detectable in the blood for only a short period following implantation.4,10 In addition, it is unclear whether the active pharmacologic ingredient is circulating or stored disulfiram or one of its metabolites. No conclusions regarding pharmacologic action as inferred through biochemical detection can be made at present, though we eagerly await such data.

The most significant comment in Wilson's letter concerns the problem of DERs. Many authors, including ourselves, have reported on the DER.2,4,8 It is an unpredictable phenomenon that is apparently dose-related and in our experience infrequent. We have performed 500 implantations in 250 patients, with about 40% recidivism over 6 months to 1 year. We have noted approximately 10 mild DERs among the recidivists. Most of the patients who drank heavily showed no reaction whatsoever — immediate or delayed other than intoxication. Having long been aware of the characteristic modified DER induced by the disulfiram implant, we have been exceedingly sensitive to possible reactions. Despite what could be interpreted as a positive bias, our clinical observations of modified DERs have been scant.

We have been impressed with the frequency of mild side effects reported by our patients early in the postimplant period. These indicate to many patients that they have received a pharmacologically active dissuader, and many choose not to test it. Those who do test the implant and fail to experience a DER express disappointment in the power of the technique.

Finally, we reiterate that the unpredictability of implanted disulfiram precludes its casual use. In our view a predictable, definitive aversion reaction is necessary before Wilson's optimistic pronouncements can be endorsed.

> STEPHEN A. KLINE, MD, FRCP[C] EDDIE KINGSTONE, MD, FRCP[C]
> Departments of psychiatry
> University of Toronto
> and Sunnybrook Medical Centre
> Toronto, Ont.

References

WILSON A, DAVIDSON WJ, WHITE J: Disulfiram-ethanol reaction to implanted disulfiram, Can Psychiatr Assoc J 21: 217, 1976

- Idem: Disulfiram implantation: placebo, psy-chological deterrent, and pharmacological de-terrent effects. Br J Psychiatry 129: 277, 1976
- KITSON TM: The disulfiram-ethanol reaction. J Stud Alcohol 38: 96, 1977
 MALCOLM MT, MADDEN JS, WILLIAMS AE: Disulfiram implantation critically evaluated. Br J Psychiatry 125: 485, 1974
- WILSON A: Disulfiram implantation in al-coholism treatment. J Stud Alcohol 36: 555, 1975
- 6. WILSON A, DAVIDSON WJ, BLANCHARD R, et al: Disulfiram implantation: a placebo-controlled trial with two-year follow-up. J Stud Alcohol (submitted for publication)
- 7. Idem: Disulfiram implantation: a controlled trial. Arch Gen Psychiatry (submitted for
- KINGSTONE E, KLINE SA: Disulfiram implants in the treatment of alcoholism. Some mechanisms of action. *Int Pharmacopsychiatry* 10: 183, 1975
- HOFF EC: The rise of disulfiram ("Antabuse") in the comprehensive therapy of a group of 1020 alcoholics. Conn Med 19: 793, 1955
- Lewis MJ, Bland RC, Baile W: Disulfiram implantation for alcoholism. Can Psychiatr Assoc J 20: 283, 1975

Inflation and the medical profession

To the editor: During the past 7 years, when the revision of the schedule of medical fees has been contemplated. government negotiators have appealed to the profession to show restraint in a time of inflation and thereby set an example to society. In order to maintain the prestige of the profession in the eyes of the public our elected representatives have agreed to this policy. As a result physicians have seen their earnings decrease in terms of real value by 35% since 1970.

But surely the cost of our prestige has been excessive, for now family physicians and specialists alike believe they can no longer spend the time necessary to provide the same quality of care given in the past.

Our position is in contrast with that of the rest of the population, whose standard of living has improved over the period referred to. Surely if the money necessary to pay physicians adequately could be afforded in 1970, it can be afforded today.

Standards of medical practice are related to the physician's earning power, which in turn should be related to the earning power of the other members of society. If the prestige of the medical profession should conflict with the maintenance of high standards of medical care, it is the latter that we must not allow to suffer.

> LOUIS TRAIN, MD 1260 Lawrence Ave. E. Don Mills, Ont.

Insulin response to fresh versus boiled milk

To the editor: The decrease in insulin requirements in two persons with diabetes who began taking a raw diet, as reported by Douglas,1 is intriguing. Suggested explanations have been (a) a decrease in the available energy because of the cellulose wall of plant foods,2 (b) a decrease in the blood glucose and serum insulin concentrations after a meal because of unabsorbable carbohydrates,3 and (c) the effect of cooking (heating).4

To test the third hypothesis we gave 17 obese females 500 mL of fresh milk and, after a 2- to 4-day interval, 500 mL of milk boiled for 10 minutes. There was no difference in the increase in the serum insulin or blood glucose values whether the milk was fresh or boiled (Table I).

Our results suggest that heating alone does not explain the lower insulin values observed after a meal of uncooked food. There is still a possibility. though, that the heating of other types of food would produce different results

This work was supported by the Mc-Donald-Stewart Foundation.

> MAURICE VERDY, MD ROBERT BENOIT, MD Hotel-Dieu Hospital Montreal, PQ

RONALD MATTE, MD RAYMONDE CHARTRAND, MD Saint-Luc Hospital Montreal, PO

References

- Douglas JM: Raw diet and insulin requirements. Ann Intern Med 82: 61, 1975
- HORWITZ DL, SLOWIE L: Raw diet in diabetes mellitus. Ibid, p 853
 JENKINS D, LEEDS A, WOLOVER T, et al: Unabsorbable carbohydrates and diabetes: decreased post-prandial hyperglycaemia. Lancet 2: 172, 1976
- 4. HAVRANKOVA J, PESANT P, ELIE R, et al: Glycémie et insulinémie après un repas cru ou cuit chez des sujets témoins et diabétiques. Union Med Can 105: 1147, 1976

Table I-Blood glucose and serum insulin values (means \pm standard deviations) in 17 obese females given 500 mL of fresh or boiled milk

Blood gluco	Blood glucose (mg/dL)		Serum insulin (μU/mL)	
administration (min) Fresh milk	Boiled milk	Fresh milk	Boiled milk	
83.3 ± 11.1	84.3 ± 7.5	5.7 ± 3.0	5.8 ± 3.5	
85.0 ± 12.5	85.3 ± 7.9	4.8 ± 2.2	5.0 ± 3.3	
88.0 ± 12.3	89.0 ± 7.3	10.6 ± 8.1	13.0 ± 10.6	
97.3 ± 16.7	94.3 ± 14.5	22.5 ± 13.5	24.2 ± 14.4	
89.3 ± 19.8	89.6 ± 14.2	17.9 ± 16.0	18.9 ± 15.7	
85.3 ± 12.8	87.3 ± 9.8	12.0 + 10.9	14.2 + 12.1	
85.0 + 12.8	85.6 + 7.2	8.5 + 4.4	10.6 ± 8.3	
85.6 ± 11.1	87.0 ± 6.5	6.7 ± 3.8	6.8 ± 2.6	
	Fresh milk 83.3 \pm 11.1 85.0 \pm 12.5 88.0 \pm 12.3 97.3 \pm 16.7 89.3 \pm 19.8 85.3 \pm 12.8 85.0 \pm 12.8	Fresh milk Boiled milk 83.3 ± 11.1 84.3 ± 7.5 85.0 ± 12.5 85.3 ± 7.9 88.0 ± 12.3 89.0 ± 7.3 97.3 ± 16.7 94.3 ± 14.5 89.3 ± 19.8 89.6 ± 14.2 85.3 ± 12.8 87.3 ± 9.8 85.0 ± 12.8 85.6 ± 7.2	Fresh milk Boiled milk Fresh milk 83.3 ± 11.1 84.3 ± 7.5 5.7 ± 3.0 85.0 ± 12.5 85.3 ± 7.9 4.8 ± 2.2 88.0 ± 12.3 89.0 ± 7.3 10.6 ± 8.1 97.3 ± 16.7 94.3 ± 14.5 22.5 ± 13.5 89.3 ± 19.8 89.6 ± 14.2 17.9 ± 16.0 85.3 ± 12.8 87.3 ± 9.8 12.0 ± 10.9 85.0 ± 12.8 85.6 ± 7.2 8.5 ± 4.4	